BUILDING SUSTAINABLE AND RESILIENT CITIES

URBANIZATION & ECONOMIC SIGNIFICANCE

1 Pakistan is facing the dual burden of urbanization and climate vulnerability

2 **40%** of Pakistan is urban today; expected to reach **59%** by 2050

3 **70%** of urban workers are informal and vulnerable to climate shocks

4 Cities contribute:
- **55%** of GDP
- **95%** of federal tax revenue

5 **60%** of internal migrants settle in the 7 largest cities, adding economic pressure

INCREASING CLIMATE THREATS

RISING TEMPERATURES

By **2070** average yearly temperatures may match the African Sahara

By century's end annual mean temperatures may rise by **3–6°C**

Climate change has made South Asian heatwaves **30-100** times more likely

Loss of green spaces and dense development have intensified the Urban Heat Island effect.

URBAN FLOODING

More rain, loss of green cover, poor drainage, and urban sprawl worsen flooding

Karachi LOST **870 km** of natural streams to urban infrastructure

LAHORE 129 KM SQ

KARACHI 61 KM SQ

is exposed to flood risks

POOR AIR QUALITY

PM2.5 reaches 73.7 ug/m3 - 10x WHO's standards

PM 2.5

Air pollution cuts life expectancy by:

3.8–4.3 years (Pakistan average)

~7 years in Lahore

Costs up to 6.5% of GDP annually (including healthcare expenses and productivity loss)

Multan's AQI hit 2000 in 2024

DISPROPORTIONATE IMPACTS

climate vulnerabilities impact low-income and marginsalised groups more

Across the developing world, the bottom **40%** of income groups can suffer up to **20%** higher income losses compared to wealthier populations.

SOLUTIONS FOR RESILIENCE

A. Nature-Based Solutions

Urban forests/green cover can

- Cut land surface temp by 0.3–3°C
- Absorb 21kg CO_2/tree/year
- Reduce PM2.5 by 25%

Restoring wetlands and floodplains improves water absorption and flood protection in a sustainable way

B. Data-driven Urban Planning

Centralized platforms to integrate climate, urban, and socio-economic data for targeted infrastructure planning

Predictive tools and early warning systems to improve shock-responsive spending

Leverage innovative use of existing and new data (such as mobile records) to track climate vulnerabilities

C. Unlocking Climate Finance

Urban adaptation needs:

$7–14 billion/year til **2050**

Property tax reform can help raise green revenues. Property tax collection at just 0.05% of GDP vs 0.35% in low-middle income countries)

TAP INTO

$40B global carbon markets (EVs, clean energy, reforestation)

Climate funds and PPPs for sustainable infrastructure

D. Infrastructure & Mobility Upgrades

Upgrade drainage with NBS (bioswales, permeable surfaces)

Expand public transport (BRT) & integrate AI (e.g., Google Green Light)

One bus = 40 cars replaced, emits same CO_2 as 3.6 cars/km

Promote EVs, especially 2-3 wheelers + charging infrastructure

Green buildings and retrofits (cut AC energy use by 20%)

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